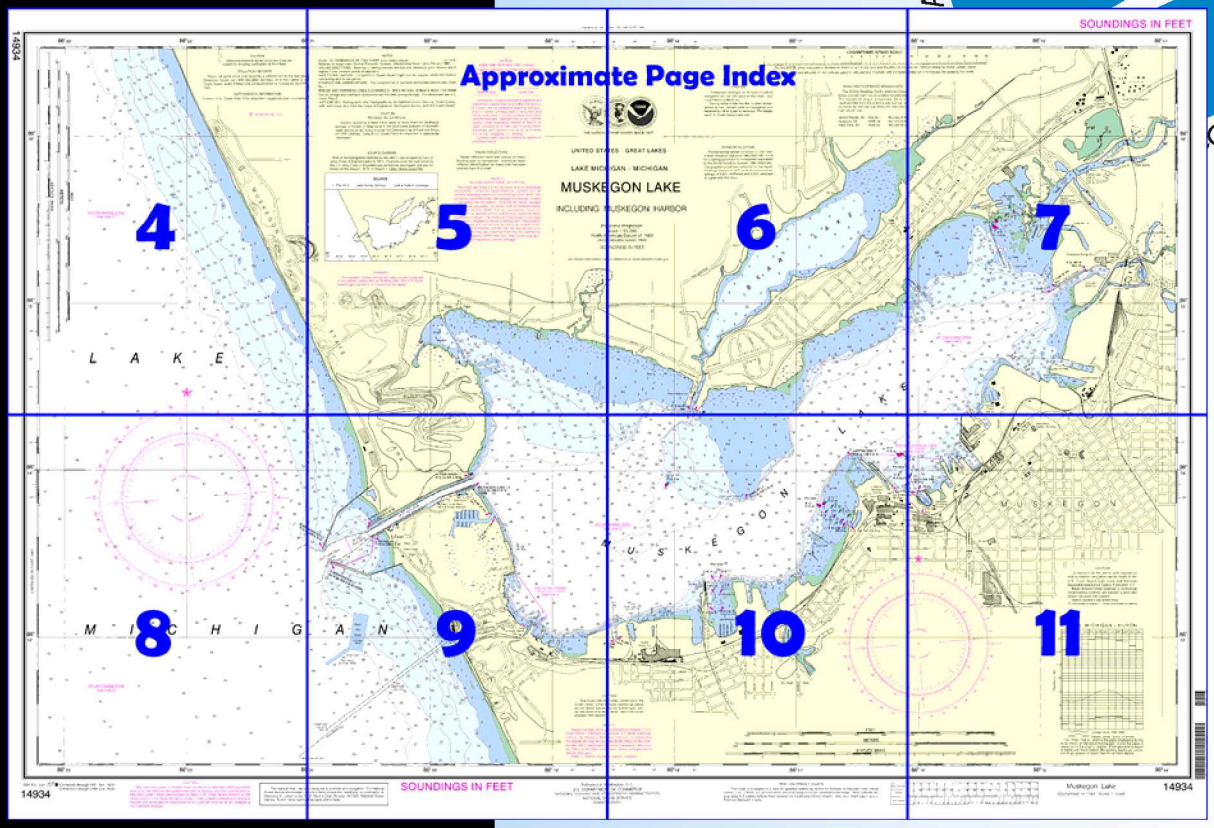
BookletChart™

Muskegon Lake including Muskegon Harbor

(NOAA Chart 14934)

A reduced scale NOAA nautical chart for small boaters. When possible, use the full size NOAA chart for navigation.

- ☑ *Complete, reduced scale nautical chart*
- ☑ *Print at home for free*
- ☑ *Convenient size*
- ☑ *Up to date with all Notices to Mariners*
- ☑ *United States Coast Pilot excerpts*
- ☑ *Compiled by NOAA, the nation's chartmaker.*



Home Edition (not for sale)

Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
301-713-2770

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

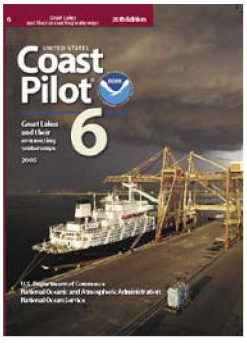
This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.



[Coast Pilot 6, Chapter 11 excerpts]

(250) **Muskegon Harbor**, 31 miles SSE of Little Sable Point, consists of Muskegon Lake and a dredged entrance channel which connects it with Lake Michigan. Facilities for a wide range of commerce are on the S shore of the harbor at the city of **Muskegon, Mich.,** and at its E end.

(251) A lighted stack of the Consumers Energy Co. at the mouth of the Muskegon River in 43°15'16"N., 86°14'23"W. is prominent from Lake Michigan. Sand hills N and S of the harbor entrance may obstruct the stack from some directions.

(252) **Muskegon South Breakwater Light** (43°13'30"N., 86°20'48"W.), 70 feet above the water, is shown from a pyramidal tower on the outer end of the S breakwater; a fog signal is at the light.

(257) **Muskegon Lake** is about 4 miles long and varies from 2 miles wide at the W end to as little as 0.6 mile in the E part. The lake has central depths of 25 to 79 feet. Near mid-length of the lake, shoals marked at the outer edges by lights extend from the N and S shores and restrict the available width of deep water to 1,600 feet. There are many obstructions in the shallow parts of the lake, including cribs, pipelines, and submerged pilings and dock ruins.

(258) The North Channel of the **Muskegon River** flows into the NE end of Muskegon Lake. The channel, at a river stage of about 2 feet above extreme low water, has depths of 2½ to 9 feet for 33 miles above the mouth to the former dam at **Newaygo, Mich.** Two fixed bridges, with a reported least clearance of 8 feet, cross the river about 0.3 mile and 0.4 mile above the mouth.

(259) **Bear Lake** parallels the NW side of the NE end of Muskegon Lake and has its outflow through a narrow channel into its N side. **North Muskegon, Mich.,** is the community on the peninsula between the two lakes.

(268) A **speed limit** of 8 mph is enforced in Muskegon Harbor. (See **33 CFR 162.120,** chapter 2, for regulations.) A **slow-no wake speed** is enforced in the Bear Lake entrance channel.

(278) A public docking facility is available mid-length of the S lakeshore at the Hartshorn Marina (43°13'48"N., 86°15'54"W.), jointly constructed by the city and the Michigan State Waterways Commission. Several private marinas are along the S shore of Lake Muskegon and can provide: transient berths, gasoline, diesel fuel, marine supplies, sewage pump-out, complete vessel repair, and hoists to 110 tons. A private marina is on the N shore at the outlet of Bear Lake. Transient berths, gasoline, diesel fuel, water, electricity, sewage pump-out, limited marine supplies, launching ramp, and harbormaster services are available. The harbormaster monitors VHF-FM channels 16 and 9. A 30-ton mobile hoist is available for engine repairs, and limited hull and electronic repairs.

Table of Selected Chart Notes

Ⓟ Pump-out facilities

Polyconic Projection
Scale 1:15,000
North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET

Corrected through NM Feb. 16/08
Corrected through LNM Feb. 12/08

NOAA WEATHER RADIO BROADCASTS

The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Grand Rapids, MI	KIG-63	162.550 MHz
Hesperia, MI	WWF-36	162.475 MHz
West Olive, MI	WXN-99	162.425 MHz

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

Pipeline Area *Cable Area*

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.

Covered wells may be marked by lighted or unlighted buoys.

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

CAUTION

Due to periodic high water conditions in the Great Lakes, some features charted as visible at Low Water Datum may be submerged, particularly in the near shore areas. Mariners should proceed with caution.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙(Accurate location) o(Approximate location)

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.051" northward and 0.212" westward to agree with this chart.

Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of reference for the charted depths. If the lake level is above or below Low Water Datum, the existing depths are correspondingly greater or lesser than the charted depths.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 9th Coast Guard District in Cleveland, Ohio or at the Office of the District Engineer, Corps of Engineers in Detroit, Michigan.

Refer to charted regulation section numbers.

Additional information can be obtained at nauticalcharts.noaa.gov.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

CAUTION

POTABLE WATER INTAKE

Vessels operating in fresh water lakes or rivers shall not discharge sewage, or ballast, or bilge water within such areas adjacent to domestic water intakes as are designated by the Commissioner of Food and Drugs (21 CFR 1250.93). Consult U.S. Coast Pilot 6 for important supplemental information.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6 for important supplemental information.

SOURCE DIAGRAM

Most of the hydrography identified by the letter "j" was surveyed by the U.S. Army Corps of Engineers prior to 1974. Channels currently maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

SYMBOLS AND ABBREVIATIONS. For complete list of symbols and abbreviations see Chart No. 1.

PLANE OF REFERENCE OF THIS CHART (Low Water Datum).....577.5 ft.
Referred to mean water level at Rimouski, Quebec, International Great Lakes Datum (1985).

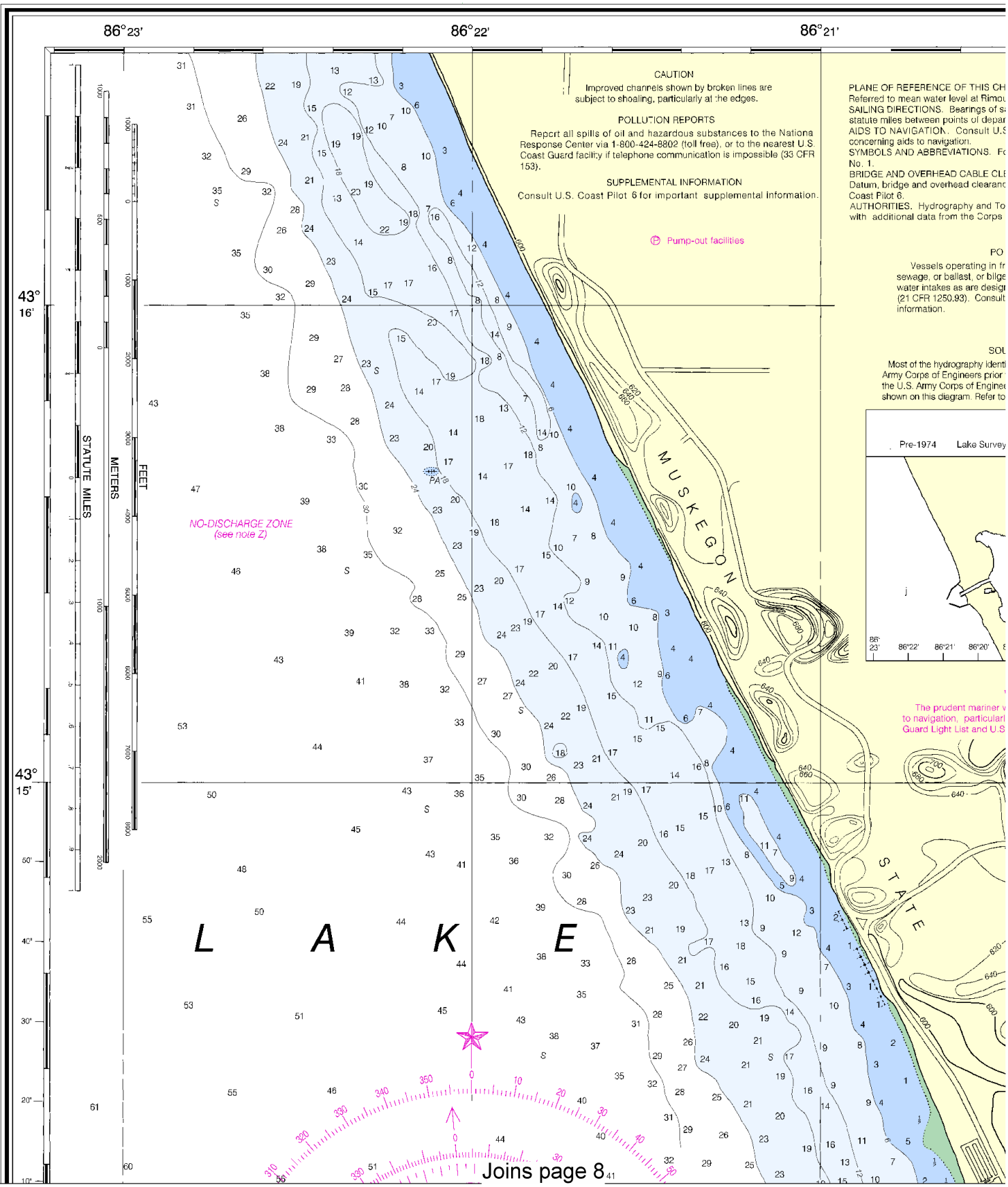
SAILING DIRECTIONS. Bearings of sailing courses are true and distances given thereon are in statute miles between points of departure.

AIDS TO NAVIGATION. Consult U.S. Coast Guard LIght List for supplemental information concerning aids to navigation.

AUTHORITIES. Hydrography and Topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S Coast Guard.

PRINT-ON-DEMAND CHARTS

This chart is available in a version updated weekly by NOAA for Notices to Mariners and critical corrections. Charts are printed when ordered using Print-on-Demand technology. New Editions are available 5-8 weeks before their release as traditional NOAA charts. Ask your chart agent about Print-on-Demand charts.



North

Printed at reduced scale. ~~SCALE 1:15,000~~ See Note on page 5.

Nautical Miles 0 1

Yards 500 0 500 1000 1500

Formerly LS 767, 1st Ed., Oct. 1901 KAPP 1491

86°20' 86°19' 50" 40" 30' 20" 10' 86°18' 50"

NOTES

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U.S. Coast Guard Light List for supplemental information

For complete list of symbols and abbreviations see Chart

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Topography by the National Ocean Service, Coast Survey,
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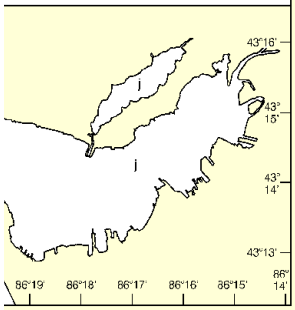

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Covered wells may be marked by lighted or unlighted buoys.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

NOTE Z
NO-DISCHARGE ZONE, 40 CFR 140

This chart falls entirely within the limits of a No-Discharge Zone (NDZ). Under the Clean Water Act, Section 312, all vessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, treated or untreated, into the waters. Commercial vessel sewage shall include graywater. All vessels with an installed marine sanitation device (MSD) that are navigating, moored, anchored, or docked within a NDZ must have the MSD disabled to prevent the overboard discharge of sewage (treated or untreated) or install a holding tank. Regulations for the NDZ are contained in the U.S. Coast Pilot. Additional information concerning the regulations and requirements may be obtained from the Environmental Protection Agency (EPA) web site: http://www.epa.gov/owow/oceans/regulatory/vessel_sewage/.

THE NATION'S CHARTMAKER SINCE 1807

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UNITED STATES - GREAT LAKES

LAKE MICHIGAN - MICHIGAN

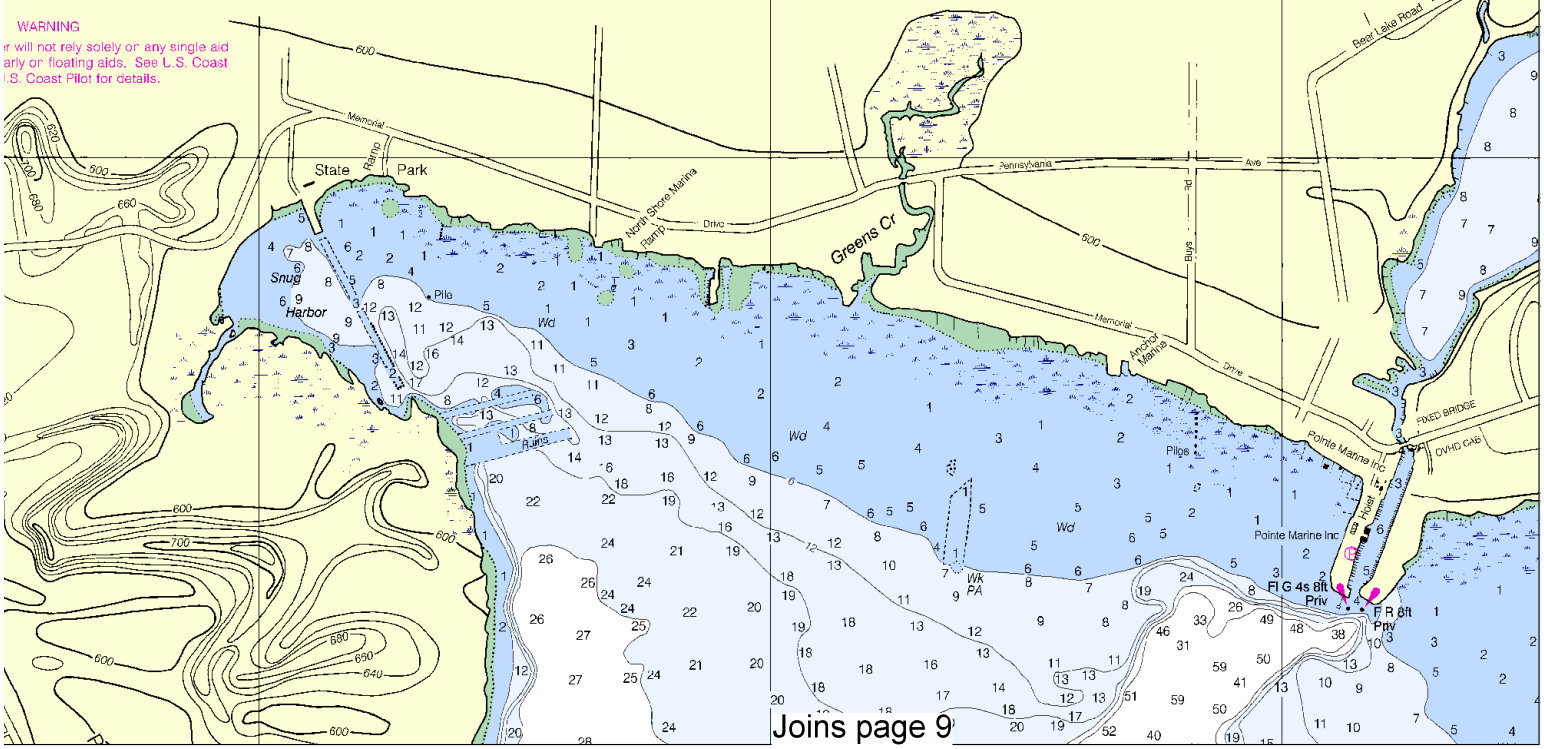
MUSKEGON LAKE

INCLUDING MUSKEGON HARBOR

Polyconic Projection
Scale 1:15,000
North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET

Additional information can be obtained at nauticalcharts.noaa.gov.



Joins page 6

Joins page 9

This BookletChart was reduced to 75% of the original chart scale.
The new scale is 1:20000. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.

Formerly LS 767, 1st Ed., Oct. 1901 KAPP 1491

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THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - GREAT LAKES

LAKE MICHIGAN - MICHIGAN

MUSKEGON LAKE

INCLUDING MUSKEGON HARBOR

Polyconic Projection
Scale 1:15,000
North American Datum of 1983
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SOUNDINGS IN FEET

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To find SPEED, place one point of dividers on dis
right point on 60 and left point will then indicate spe

Joins page 5

Joins page 10

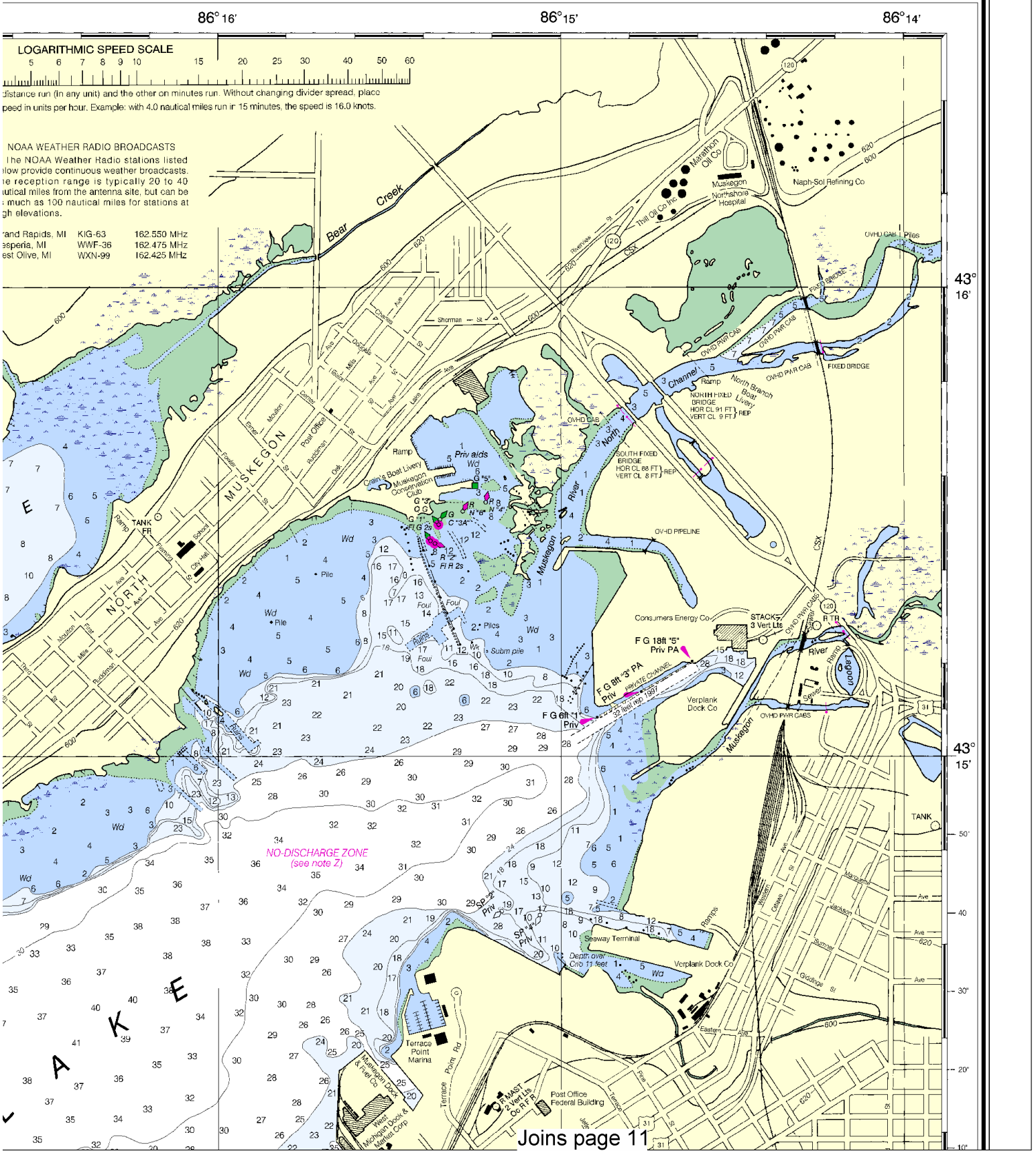
Printed at reduced scale. ~~SCALE 1:15,000~~ See Note on page 5.

Nautical Miles 0 1

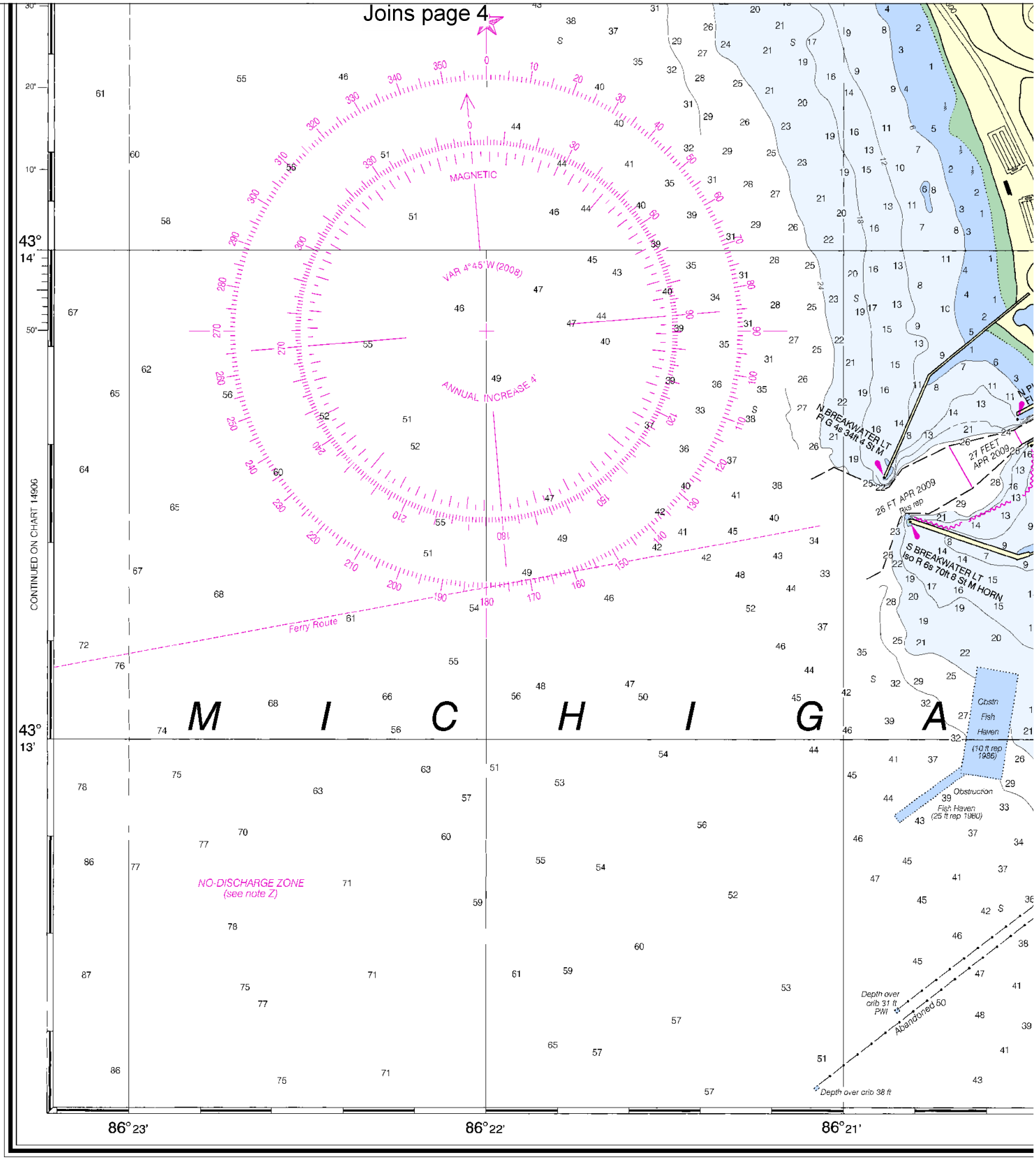
Yards 500 0 500 1000 1500

North

SOUNDINGS IN FEET



This BookletChart has been updated with: Coast Guard Local Notice To Mariners: 0710 2/16/2010,
NGA Weekly Notice to Mariners: 0910 2/27/2010,
Canadian Coast Guard Notice to Mariners: 0110 1/29/2010.



29th Ed., Feb. /08 ■ Corrected through NM Feb. 16/08
Corrected through LNM Feb. 12/08

14934

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North

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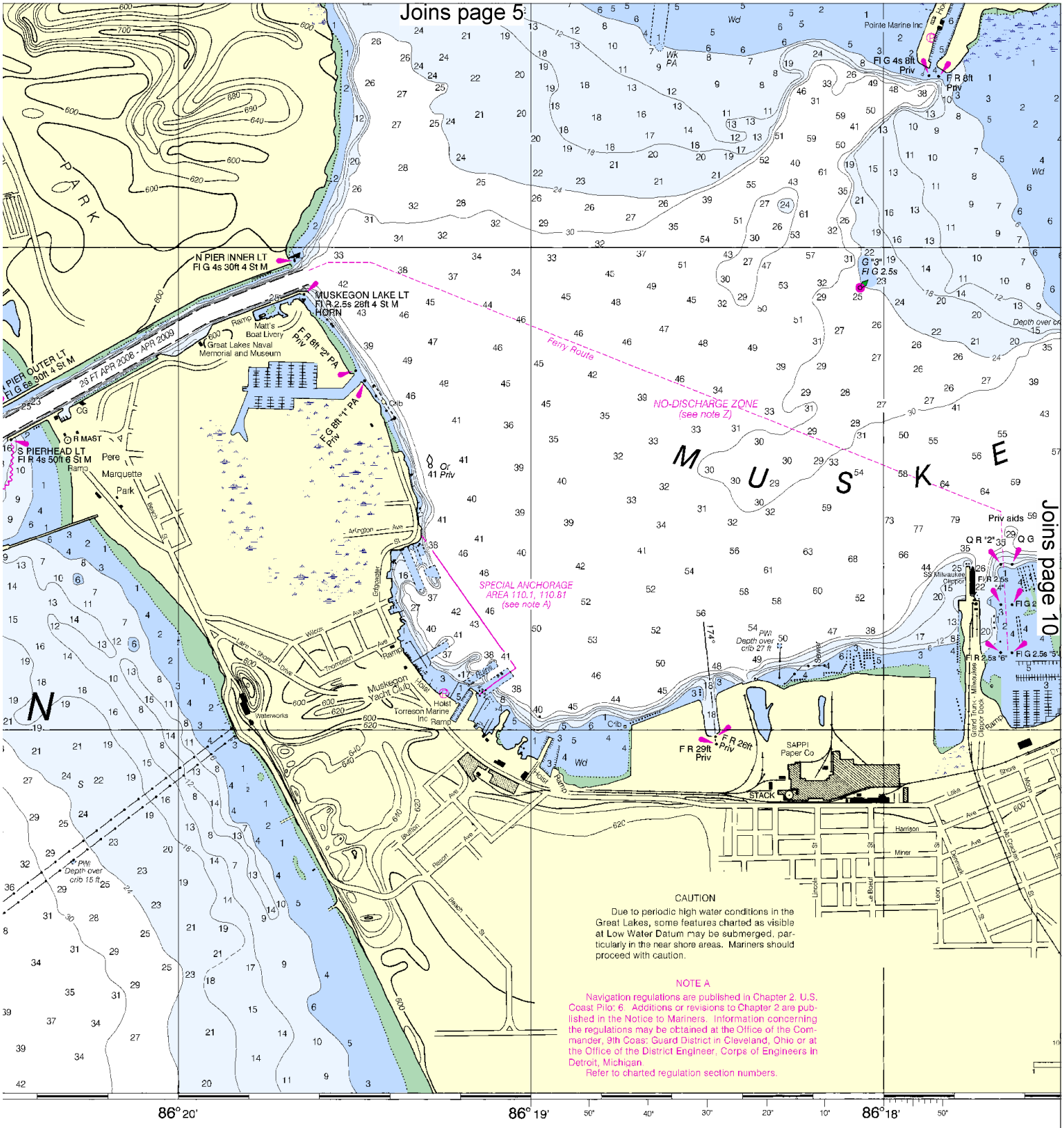
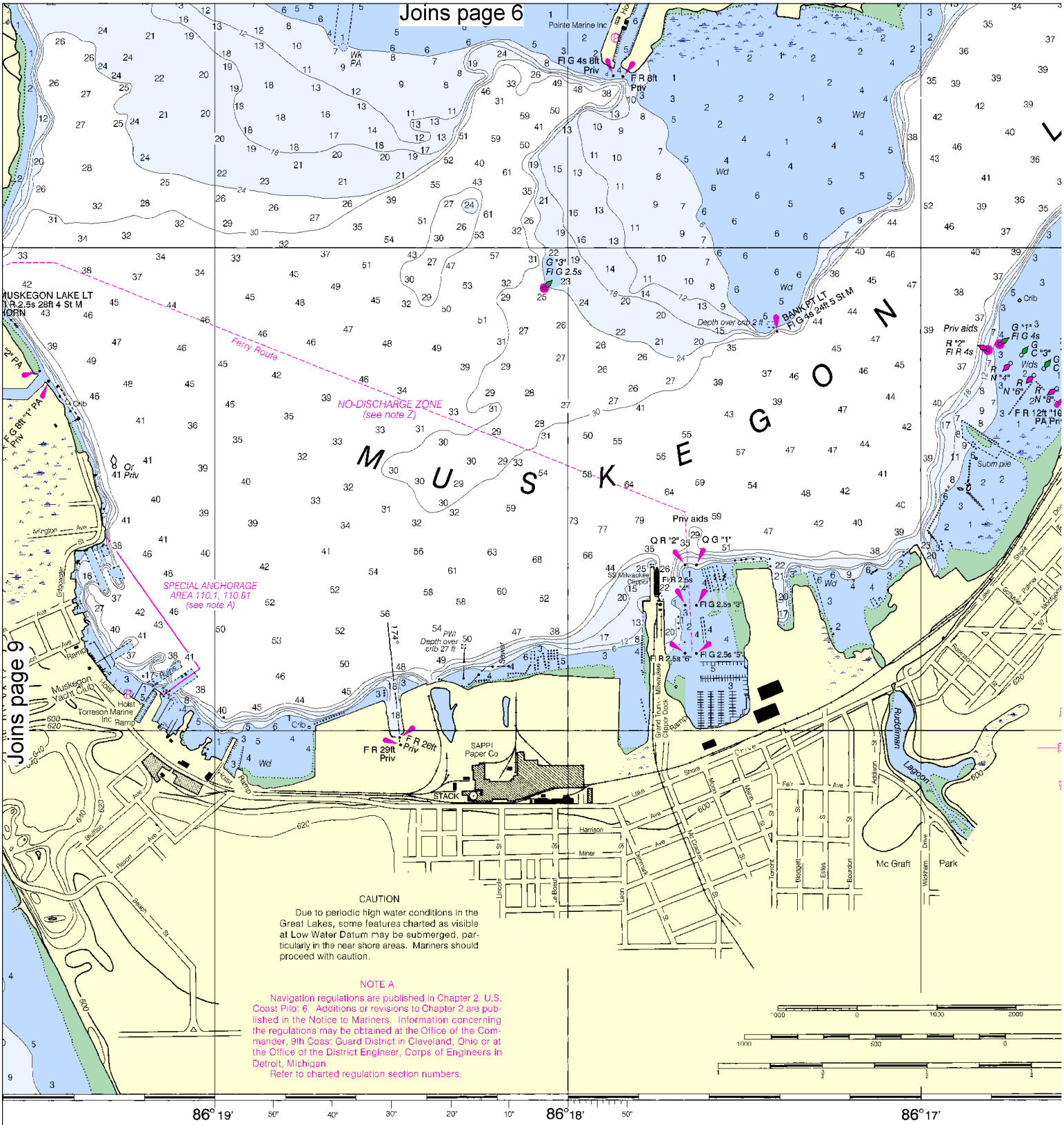
Nautical Miles
0 1

Yards
500 0 500 1000 1500



SOUNDINGS IN FEET

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY



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Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
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COAST SURVEY

PRINT-ON-DEMAND CHARTS

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North

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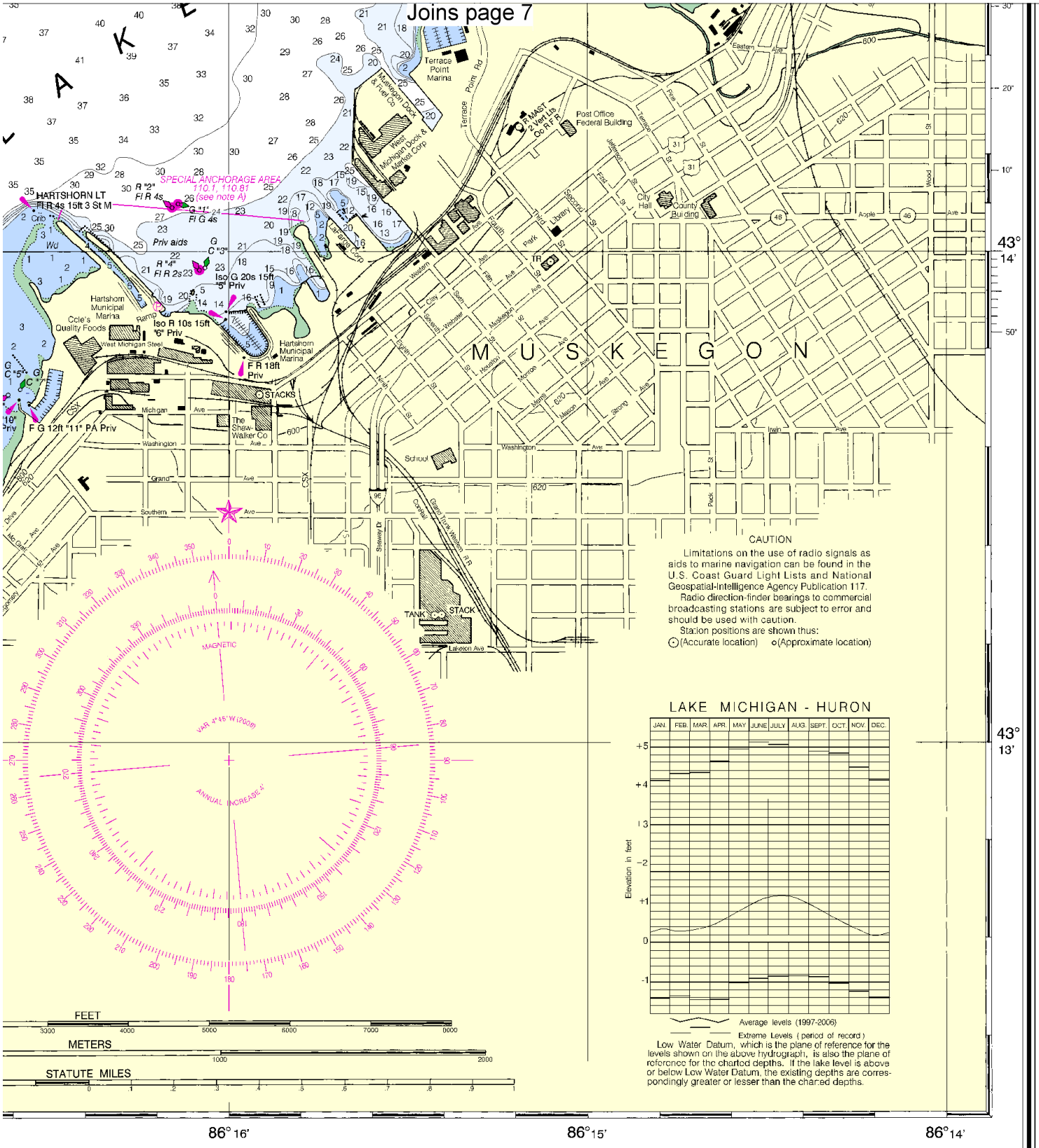
Nautical Miles: 0 — 1

Yards: 500 — 0 — 500 — 1000 — 1500



to Mariners and critical
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your chart agent about

FATHOMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
FEET	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
METERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Muskegon Lake

SOUNDINGS IN FEET - SCALE 1:15,000

14934

11

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.
Channel 9 – Communications between boats and ship-to-coast.
Channel 13 – Navigation purposes at bridges, locks, and harbors.
Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
Channels 68, 69, 71, 72 & 78A – Recreational boat channels.

Distress Call Procedures

1. Make sure radio is on.
2. Select Channel 16.
3. Press/Hold the transmit button.
4. Clearly say: "MAYDAY, MAYDAY, MAYDAY."
5. Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
6. Release transmit button.
7. Wait for 10 seconds – If no response Repeat MAYDAY Call.

HAVE ALL PERSONS PUT ON LIFE JACKETS !!

Mobile Phones – Call 911 for water rescue.
Coast Guard Search & Rescue (RCC) – 216-902-6117
Coast Guard S & R (Sector Great Lakes) – 616-850-2501

NOAA Weather Radio – 162.400 MHz, 162.425 MHz, 162.450 MHz, 162.475 MHz, 162.500 MHz, 162.525 MHz, 162.550 MHz.

Getting and Giving Help – Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

NOAA, The Nation's Chartmaker

NOAA CHARTING PUBLICATIONS

Official NOAA Nautical Charts – NOAA surveys and charts the national and territorial waters of the U.S, including the Great Lakes. We produce over 1,000 traditional nautical charts covering 3.4 million square nautical miles. Carriage of official NOAA charts is mandatory on the commercial ships that carry our commerce. They are used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters. NOAA charts are available from official chart agents listed at: www.NauticalCharts.NOAA.gov.

Official Print-on-Demand Nautical Charts – These full-scale NOAA charts are updated weekly by NOAA for all Notice to Mariner corrections. They have additional information added in the margin to supplement the chart. Print-on-Demand charts meet all federal chart carriage regulations for charts and updating. Produced under a public/private partnership between NOAA and OceanGrafix, LLC, suppliers of these premium charts are listed at www.OceanGrafix.com.

Official Electronic Navigational Charts (NOAA ENCs®) – ENCs are digital files of each chart's features and their attributes for use in computer-based navigation systems. ENCs comply with standards of the International Hydrographic Organization. ENCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official Raster Navigational Charts (NOAA RNCs™) – RNCs are geo-referenced digital pictures of NOAA's charts that are suitable for use in computer-based navigation systems. RNCs comply with standards of the International Hydrographic Organization. RNCs and their updates are available for free from NOAA at www.NauticalCharts.NOAA.gov.

Official BookletCharts™ – BookletCharts™ are reduced scale NOAA charts organized in page-sized pieces. The "Home Edition" can be downloaded from NOAA for free and printed. The Internet address is www.NauticalCharts.gov/bookletcharts.

Official PocketCharts™ – PocketCharts™ are for beginning recreational boaters to use for planning and locating, but not for real navigation. Measuring a convenient 13" by 19", they have a 1/3 scale chart on one side, and safety, boating, and educational information on the reverse. They can be purchased at retail outlets and on the Internet.

Official U.S. Coast Pilot® – The Coast Pilots are 9 text volumes containing information important to navigators such as channel descriptions, port facilities, anchorages, bridge and cable clearances, currents, prominent features, weather, dangers, and Federal Regulations. They supplement the charts and are available from NOAA chart agents or may be downloaded for free at www.NauticalCharts.NOAA.gov.

Official On-Line Chart Viewer – All NOAA nautical charts are viewable here on-line using any Internet browser. Each chart is up-to-date with the most recent Notices to Mariners. Use these on-line charts as a ready reference or planning tool. The Internet address is www.NauticalCharts.gov/viewer.

Official Nautical Chart Catalogs – Large format, regional catalogs are available for free from official chart agents. Page size, state catalogs are posted on the Internet and can be printed at home for free. Go to http://NauticalCharts.NOAA.gov/mcd/ccatalogs.htm.

Internet Sites: www.NauticalCharts.NOAA.gov, www.NOAA.gov, www.TidesandCurrents.NOAA.gov, www.NOS.NOAA.gov.